

In the Claims:

Please amend the claims as follows:

Please cancel claims 2-16, 18, and 20-25 without prejudice.

Please add new claims 26 to 164 as follows:

26. (New) A method of treating an immune system disease or disorder comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:
- (a) the amino acid sequence of amino acid residues 1 to 285 of SEQ ID NO:2; and
 - (b) the amino acid sequence of amino acid residues 72 to 285 of SEQ ID NO:2.
27. (New) The method of claim 26 wherein the protein consists of amino acid sequence (a).
28. (New) The method of claim 26 wherein the protein consists of amino acid sequence (b).
29. (New) The method of claim 26 wherein the antibody or portion thereof is a monoclonal antibody.
30. (New) The method of claim 26 wherein the antibody or portion thereof is a polyclonal antibody.
31. (New) The method of claim 26 wherein the antibody or portion thereof is a Fab fragment.
32. (New) The method of claim 26 wherein the antibody or portion thereof is labeled.

33. (New) The method claim 32 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

34. (New) The method of claim 33 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

35. (New) The method of claim 26 wherein the immune system disease or disorder is an inflammatory disease or disorder.

36. (New) The method of claim 26 wherein the immune system disease or disorder is a leukemia.

37. (New) The method of claim 26 wherein the immune system disease or disorder is a tumor.

38. (New) The method of claim 37 wherein the tumor is metastatic.

39. (New) A method of treating an immune system disease or disorder comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;

(b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and

(c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284.

40. (New) The method of claim 39 wherein the protein consists of amino acid sequence (a).

41. (New) The method of claim 39 wherein the protein consists of amino acid sequence (b).

42. (New) The method of claim 39 wherein the protein consists of amino acid sequence (c).

43. (New) The method of claim 39 wherein the antibody or portion thereof is a monoclonal antibody.

44. (New) The method of claim 39 wherein the antibody or portion thereof is a polyclonal antibody.

45. (New) The method of claim 39 wherein the antibody or portion thereof is a Fab fragment.

46. (New) The method of claim 39 wherein the antibody or portion thereof is labeled.

47. (New) The method claim 46 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

48. (New) The method of claim 47 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

49. (New) The method of claim 39 wherein the immune system disease or disorder is an inflammatory disease or disorder.

50. (New) The method of claim 39 wherein the immune system disease or disorder is a leukemia.

51. (New) The method of claim 39 wherein the immune system disease or disorder is a tumor.

52. (New) The method of claim 51 wherein the tumor is metastatic.

53. (New) A method of treating an immune system disease or disorder comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

54. (New) The method of claim 53 wherein the antibody or portion thereof is a monoclonal antibody.

55. (New) The method of claim 53 wherein the antibody or portion thereof is a polyclonal antibody.

56. (New) The method of claim 53 wherein the antibody or portion thereof is a Fab fragment.

57. (New) The method of claim 53 wherein the antibody or portion thereof is labeled.

58. (New) The method of claim 57 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

59. (New) The method of claim 58 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

60. (New) The method of claim 53 wherein the immune system disease or disorder is an inflammatory disease or disorder.

61. (New) The method of claim 53 wherein the immune system disease or disorder is a leukemia.

62. (New) The method of claim 53 wherein the immune system disease or disorder is a tumor.

63. (New) The method of claim 62 wherein the tumor is metastatic.

64. (New) A method of treating an autoimmune disease or disorder comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of amino acid residues 1 to 285 of SEQ ID NO:2; and

(b) the amino acid sequence of amino acid residues 72 to 285 of SEQ ID NO:2.

65. (New) The method of claim 64 wherein the protein consists of amino acid sequence (a).

66. (New) The method of claim 64 wherein the protein consists of amino acid sequence (b).

67. (New) The method of claim 64 wherein the antibody or portion thereof is a monoclonal antibody.

68. (New) The method of claim 64 wherein the antibody or portion thereof is a polyclonal antibody.

69. (New) The method of claim 64 wherein the antibody or portion thereof is a Fab fragment.

70. (New) The method of claim 64 wherein the antibody or portion thereof is labeled.

71. (New) The method of claim 70 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

72. (New) The method of claim 71 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

73. (New) The method of claim 64 wherein the autoimmune disease or disorder is rheumatoid arthritis.

74. (New) A method of treating an autoimmune disease or disorder comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;
- (b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and
- (c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284.

75. (New) The method of claim 74 wherein the protein consists of amino acid sequence (a).

76. (New) The method of claim 74 wherein the protein consists of amino acid sequence (b).

77. (New) The method of claim 74 wherein the protein consists of amino acid sequence (c).

78. (New) The method of claim 74 wherein the antibody or portion thereof is a monoclonal antibody.

79. (New) The method of claim 74 wherein the antibody or portion thereof is a polyclonal antibody.

80. (New) The method of claim 74 wherein the antibody or portion thereof is a Fab fragment.

81. (New) The method of claim 74 wherein the antibody or portion thereof is labeled.

82. (New) The method of claim 81 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

83. (New) The method of claim 82 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

84. (New) The method of claim 74 wherein the autoimmune disease or disorder is rheumatoid arthritis.

85. (New) A method of treating an autoimmune system disease or disorder comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

86. (New) The method of claim 85 wherein the antibody or portion thereof is a monoclonal antibody.

87. (New) The method of claim 85 wherein the antibody or portion thereof is a polyclonal antibody.

88. (New) The method of claim 85 wherein the antibody or portion thereof is a Fab fragment.

89. (New) The method of claim 85 wherein the antibody or portion thereof is labeled.

90. (New) The method of claim 89 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

91. (New) The method of claim 90 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

92. (New) A method of treating an immunodeficiency comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues 1 to 285 of SEQ ID NO:2; and
- (b) the amino acid sequence of amino acid residues 72 to 285 of SEQ ID NO:2.

B' cont.
93. (New) The method of claim 92 wherein the protein consists of amino acid sequence (a).

94. (New) The method of claim 92 wherein the protein consists of amino acid sequence (b).

95. (New) The method of claim 92 wherein the antibody or portion thereof is a monoclonal antibody.

96. (New) The method of claim 92 wherein the antibody or portion thereof is a polyclonal antibody.

97. (New) The method of claim 92 wherein the antibody or portion thereof is a Fab fragment.

98. (New) The method of claim 92 wherein the antibody or portion thereof is labeled.

99. (New) The method of claim 98 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

100. (New) The method of claim 99 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

8' cont.
101. (New) A method of treating an immunodeficiency comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;
- (b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and
- (c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284.

102. (New) The method of claim 101 wherein the protein consists of amino acid sequence (a).

103. (New) The method of claim 101 wherein the protein consists of amino acid sequence (b).

104. (New) The method of claim 101 wherein the protein consists of amino acid sequence (c).

105. (New) The method of claim 101 wherein the antibody or portion thereof is a monoclonal antibody.

106. (New) The method of claim 101 wherein the antibody or portion thereof is a polyclonal antibody.

107. (New) The method of claim 101 wherein the antibody or portion thereof is a Fab fragment.

108. (New) The method of claim 101 wherein the antibody or portion thereof is labeled.

B' cont.
109. (New) The method of claim 108 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

110. (New) The method of claim 109 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

111. (New) A method of treating an immunodeficiency comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of the amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

112. (New) The method of claim 111 wherein the antibody or portion thereof is a monoclonal antibody.

113. (New) The method of claim 111 wherein the antibody or portion thereof is a polyclonal antibody.

114. (New) The method of claim 111 wherein the antibody or portion thereof is a Fab fragment.

115. (New) The method of claim 111 wherein the antibody or portion thereof is labeled.

B' cont.
116. (New) The method of claim 115 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

117. (New) The method of claim 116 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub 3
118. (New) A method of treating rheumatoid arthritis comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of the amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

119. (New) The method of claim 118 wherein the antibody or portion thereof is a monoclonal antibody.

120. (New) The method of claim 118 wherein the antibody or portion thereof is a polyclonal antibody.

121. (New) The method of claim 118 wherein the antibody or portion thereof is a Fab fragment.

122. (New) The method of claim 118 wherein the antibody or portion thereof is labeled.

B' cont.
123. (New) The method of claim 122 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

Sub D
124. (New) The method of claim 123 wherein the label is a radioisotope selected from the group consisting of:

- (a) ¹²⁵I;
- (b) ¹²¹I;
- (c) ¹³¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

125. (New) The method of claim 118 wherein the immune system disease or disorder is an autoimmune system disease or disorder.

126. (New) The method of claim 118 wherein the immune system disease or disorder is an immunodeficiency.

127. (New) The method of claim 118 wherein the immune system disease or disorder is an inflammatory disease or disorder.

128. (New) The method of claim 118 wherein the immune system disease or disorder is a leukemia.

129. (New) The method of claim 118 wherein the immune system disease or disorder is a tumor.

130. (New) The method of claim 129 wherein the tumor is metastatic.

8' cont.
131. (New) A method of treating an immune system disease or disorder comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

(b) the amino acid sequence of a carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said carboxy-terminal deletion protein mutant excludes up to 11 amino acid residues from the carboxy terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768; and

(c) the amino acid sequence of an amino- and carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino- and carboxy-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus and up to 11 amino acid residues from the carboxy terminus of said said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768.

132. (New) The method of claim 131 wherein the protein consists of amino acid sequence (a).

133. (New) The method of claim 131 wherein the protein consists of amino acid sequence (b).

134. (New) The method of claim 131 wherein the protein consists of amino acid sequence (c).

B¹
cont.
135. (New) The method of claim 131 wherein the antibody or portion thereof is a monoclonal antibody.

136. (New) The method of claim 131 wherein the antibody or portion thereof is a polyclonal antibody.

137. (New) The method of claim 131 wherein the antibody or portion thereof is a Fab fragment.

138. (New) The method of claim 131 wherein the antibody or portion thereof is labeled.

139. (New) The method of claim 138 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

140. (New) The method of claim 139 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

B'
 cont.
 141. (New) The method of claim 131 wherein the immune system disease or disorder is an autoimmune system disease or disorder.

142. (New) The method of claim 135 wherein the autoimmune disease or disorder is rheumatoid arthritis.

143. (New) The method of claim 131 wherein the immune system disease or disorder is an immunodeficiency.

144. (New) The method of claim 131 wherein the immune system disease or disorder is an inflammatory disease or disorder.

145. (New) The method of claim 131 wherein the immune system disease or disorder is a leukemia.

146. (New) The method of claim 131 wherein the immune system disease or disorder is a tumor.

147. (New) The method of claim 146 wherein the tumor is metastatic.

148. (New) A method of inhibiting leukocyte activation or proliferation comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;

(b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and

(c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284.

149. (New) The method of claim 148 wherein the protein consists of amino acid sequence (a).

150. (New) The method of claim 148 wherein the protein consists of amino acid sequence (b).

151. (New) The method of claim 148 wherein the protein consists of amino acid sequence (c).

152. (New) The method of claim 148 wherein the antibody or portion thereof is a monoclonal antibody.

153. (New) The method of claim 148 wherein the antibody or portion thereof is a polyclonal antibody.

154. (New) The method of claim 148 wherein the antibody or portion thereof is a Fab fragment.

155. (New) The method of claim 148 wherein the antibody or portion thereof is labeled.

156. (New) The method of claim 155 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

157. (New) The method of claim 156 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

B' cont.
sub 5
158. (New) A method of inhibiting leukocyte activation or proliferation comprising administering to an individual, a therapeutically effective amount of an antibody or portion thereof that specifically binds a protein consisting of an amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

159. (New) The method of claim 158 wherein the antibody or portion thereof is a monoclonal antibody.

160. (New) The method of claim 158 wherein the antibody or portion thereof is a polyclonal antibody.

161. (New) The method of claim 158 wherein the antibody or portion thereof is a Fab fragment.

162. (New) The method of claim 158 wherein the antibody or portion thereof is labeled.

163. (New) The method of claim 162 wherein the label is selected from the group consisting of:

- (a) an enzyme label;
- (b) a radioisotope;
- (c) a fluorescent label; and
- (d) biotin.

B'
correl.
164. (New) The method of claim 163 wherein the label is a radioisotope selected from the group consisting of:

- (a) ^{125}I ;
- (b) ^{121}I ;
- (c) ^{131}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.